molex®

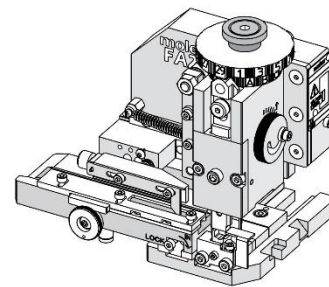## Order Number 213069-6100

Application Tooling Specification

FEATURES

- Applicator designed to industry-standard mounting and 135.80mm (5.346") shut height
- Quick setup time; plus, the crimp height, track and feed adjustments can be set without removing the applicator from the press
- Fine adjustment allows users to achieve target with little effort by adjusting in increments of 0.015mm (.0006") for conductor crimp height and 0.025mm (.001") for insulation height
- Fine adjustment of the bend is achieved using the bend adjust dial
- Independent adjustment rings allow users to quickly adjust the conductor or insulation crimp height without affecting each other
- Directly adapts to most automatic wire processing machines

SCOPE

Products: 1.25mm (.049") Pitch Crimp Terminal, 28-32 AWG.

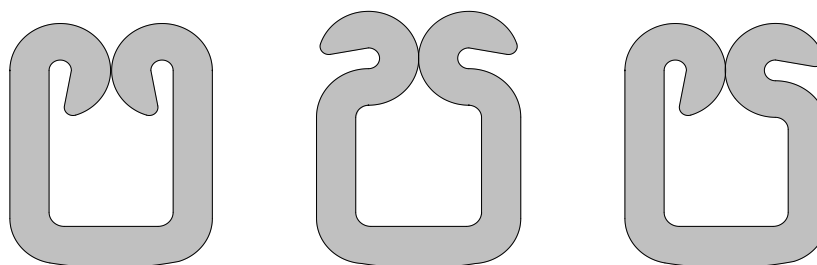| Terminal Series No.	Terminal Order No.	Wire Size		Insulation Diameter		Strip Length (Ref)	
		AWG	mm²	mm	In.	mm	In.
50058	50058-8001 50058-8020	28-32	0.08-0.03	0.50-1.00	.020-.039	1.40-1.90	.055-.075

CAUTION: Lubrication must be used to prevent terminals from sticking in the conductor punch. Use 63801-7240 oiler or equivalent.
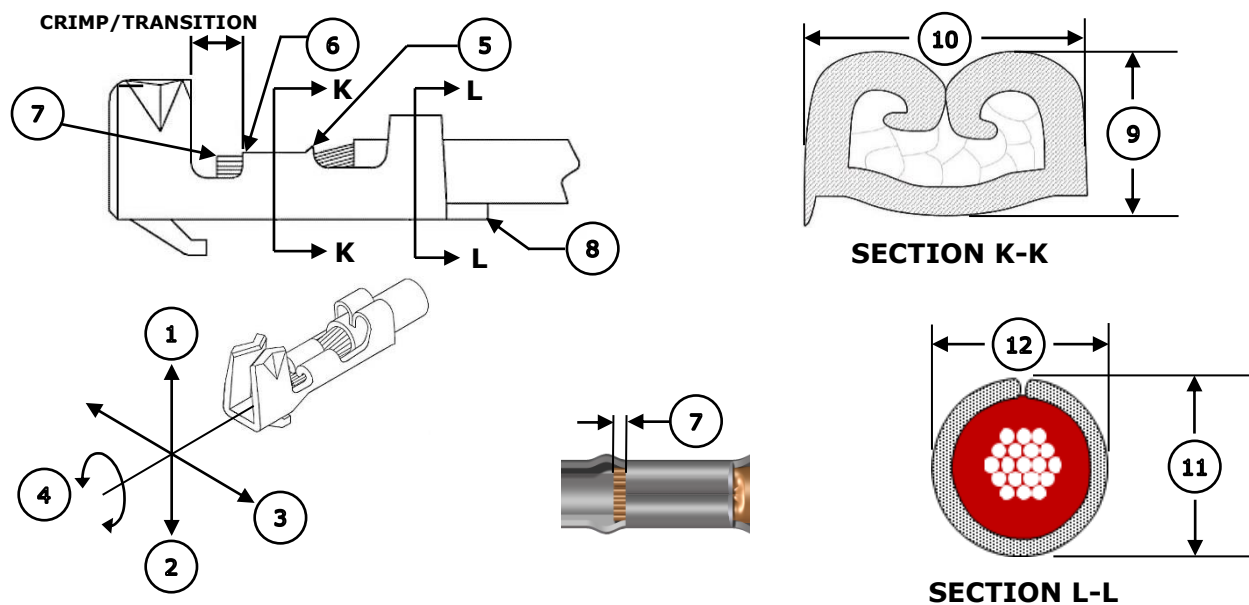
INSULATION CRIMP FORM

This crimp terminal is designed for miniaturization; therefore, each dimension of insulation crimp portion appears small as compared to the terminal material thickness. To avoid insulation piercing the crimp forms by the insulation barrel, coining is provided inside of the insulation barrel. For this reason, various crimp forms will occur at the tip of the insulation crimp barrel shown in the figure below.

These crimp forms maybe changed completely by a small change in the wire, insulation punch or terminal.

These crimp forms are satisfactory for original function of the insulation crimp portion, and it is confirmed the forms below are acceptable insulation crimps.

Doc. No: 2130696100
Revision: B
Release Date: 12-12-22
Revision Date: 07-18-23
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DEFINITION OF TERMS

SECTION K-K

SECTION L-L

CRIMP SPECIFICATIONS

Feature	Requirement					
1. Bend Up	5° Max					
2. Bend Down	4° Max					
3. Twist	6° Max					
4. Roll	8° Max					
5. Bell Mouth Rear	0.05-0.30mm (.002-.012")					
6. Bell Mouth Front	Not Applicable					
7. Conductor Brush	0.00-0.70mm (.000-.028")					
8. Cut-Off Tab	0.10mm (.004") Max					
Conductor Crimp	**Wire Size**		**9. Crimp Height**		**10. Crimp Width (Ref)**	
	28 AWG	0.08mm²	0.45-0.49mm	.017-.019 in.	0.77mm	.030 in.
	30 AWG	0.05mm²	0.44-0.48mm	.017-.019 in.	0.77mm	.030 in.
	32 AWG	0.03mm²	0.43-0.47mm	.017-.019 in.	0.77mm	.030 in.
Insulation Crimp	**Wire Size**		**11. Crimp Height (Ref)**		**12. Crimp Width (Ref)**	
	28 AWG	0.08mm²	1.25mm	.049 in.	0.90mm	.035 in.
	30 AWG	0.05mm²	1.25mm	.049 in.	0.90mm	.035 in.
	32 AWG	0.03mm²	1.25mm	.049 in.	0.90mm	.035 in.
Pull Force	**Wire Size**		**Minimum Force**			
	28 AWG	0.08mm²	9.8 N	2.2 lb.	To be measured with no influence from the insulation crimp.	
	30 AWG	0.05mm²	4.9 N	1.1 lb.		
	32 AWG	0.03mm²	3.4 N	0.8 lb.		

NOTES

General Notes

1. Molex recommends that an extra perishable tooling kit be maintained at your facility.
2. Verify tooling alignment by hand cycling the press and applicator before crimping under power. Check that all screws are tight.
3. Slugs, terminals, dirt and oil should be kept clear of the work area.
4. Wear safety glasses when operating or maintaining the applicator.
5. For recommended maintenance, refer to the FA2 manual (TM-638080200).
6. Molex recommends crimping standard copper wire only.
7. Lubrication must be used when crimping this terminal to prevent terminal from sticking in the conductor punch. Use 63801-7240 oiler or equivalent.

WARNINGS

CAUTION: This applicator must be installed in a press with a standard shut height of 135.80mm (5.346"). Tooling damage could result at a lower setting.

CAUTION: To prevent injury, never operate this applicator without the guards supplied with the press or wire-processing machine in place. Reference the press or wire processing manufacturer's instruction manual.

CAUTION: Molex tooling crimp specifications are valid only when used with Molex terminals and tooling manufactured by Molex and sold by Molex or authorized distributors ("Molex Tooling"). When using tooling other than Molex Tooling with Molex-specific connector systems listed in our ATS documents, the Molex Tooling qualification does not apply, and the responsibility for full qualification of the connector system is that of the customer. Molex accepts no liability for connector performance or tooling support where tooling other than Molex Tooling is used or where Molex Tooling is modified.

PARTS LIST

FA2 Applicator 213069-6100				
Item	Order No.	Engineering No.	Description	Quantity
Perishable Tooling				
	213069-6170	213069-6170	Tool Kit (All "Y" Items)	Ref
1	63454-0801	63454-0801	Insulation Punch	1 Y
2	63457-0703	63457-0703	Conductor Punch	1 Y
3	200217-0805	200217-0805	Combination Anvil	1 Y
4	63443-0136	63443-0136	Cut-Off Plunger	1 Y
5	63443-0119	63443-0119	Cutting Insert	1 Y
Non-Perishable Components				
6	11-24-1067	4996-4	Cut-Off Plunger Spring	1
7	63443-0117	63443-0117	Front Scrap Chute	1
8	63443-0118	63443-0118	Front Plunger Retainer	1
9	63443-7403	63443-7403	Hold Down Block	1
10	63600-5775	63600-5775	Nose Hold Down Shank	1
11	63443-2807	63443-2807	Front Plunger Striker	1
12	63443-4701	63443-4701	Terminal Guide	1
13	63443-4402	63443-4402	Feed Cam	1
14	63808-0249	63808-0249	Feed Pawl	1
15	63808-0229	63808-0229	Bend Adjust Dial	1
16	63443-7315	63443-7315	Combination Wire Stop / Hold Down Plunger	1
17	63443-7316	63443-7316	Terminal Hold Down Retainer	1
18	63700-0992	63700-0992	Terminal Hold Down Plunger Spring	1
19	63443-7318	63443-7318	Terminal Hold Down	1
20	200213-7204	200213-7204	Terminal Hold Down Retainer Plate	1
21	203045-0030	203045-0030	Torsion Spring	1
Frame				
22	63808-0200	63808-0200	Applicator Core	1
23	63808-0197	63808-0197	Mechanical Feed Assembly	1
24	63808-0191	63808-0191	Track Assembly	1
Hardware				
25	—	—	M2.5 x 3 SHCS	2*
26	—	—	M3 Hex Nut	1*
27	—	—	M3 Flat Washer Hard	1*
28	—	—	M3 Inner Tooth Lock Washer	1*
29	—	—	M3 x 6 BHCS	2*
30	—	—	M3 x 8 SHCS	1*
31	—	—	M3 x 10 SHCS	1*
32	—	—	M3 x 12 SHCS	4*
33	—	—	M4 x 4 SSS	1*
34	—	—	M4 x 6 SHCS	1*
35	—	—	M4 x 8 SHCS	2*
36	—	—	M4 x 45 SHCS	2*
37	—	—	#10-32UNF x .25" BHCS	1*

*Fastener parts can be purchased through most industrial suppliers by using the description in the table above.
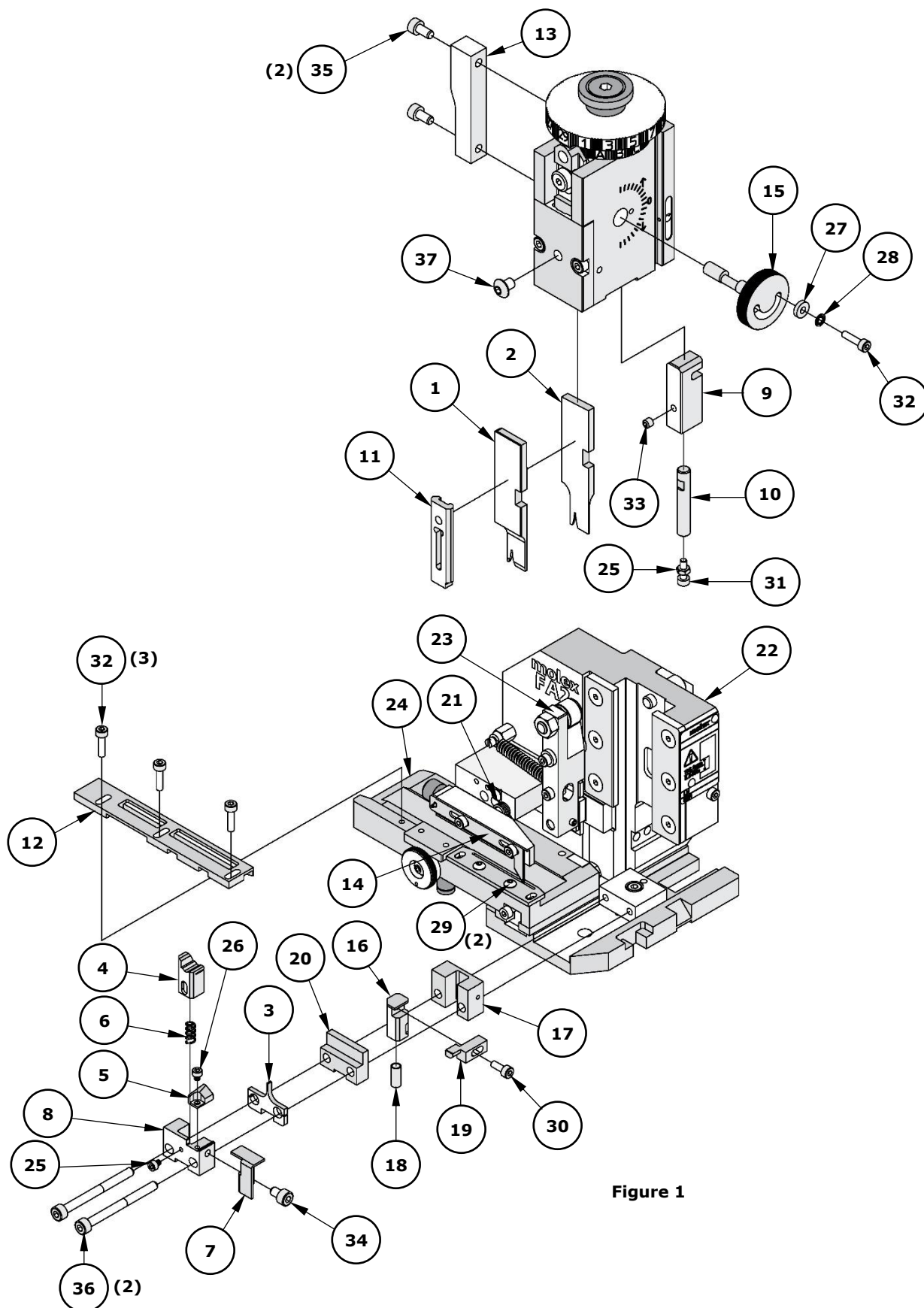
ASSEMBLY DRAWING

Figure 1

FACTORY SETTINGS

Feed Pawl Assembly

The FA2 applicator number 213069-6100 ships with the following factory settings. See Figure 2:

- The feed pawl shaft and M3 screw that holds the feed pawl spring are in position 3.
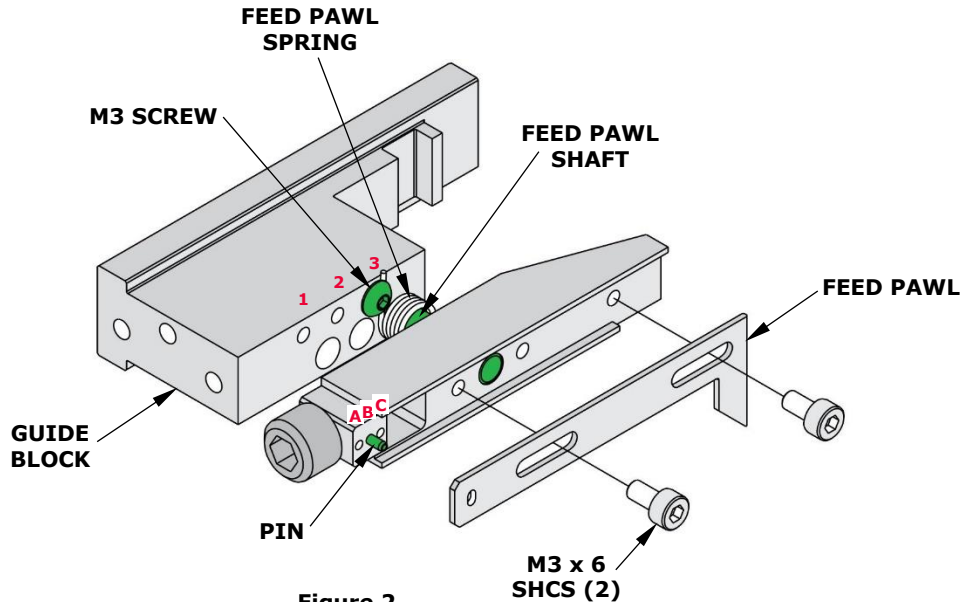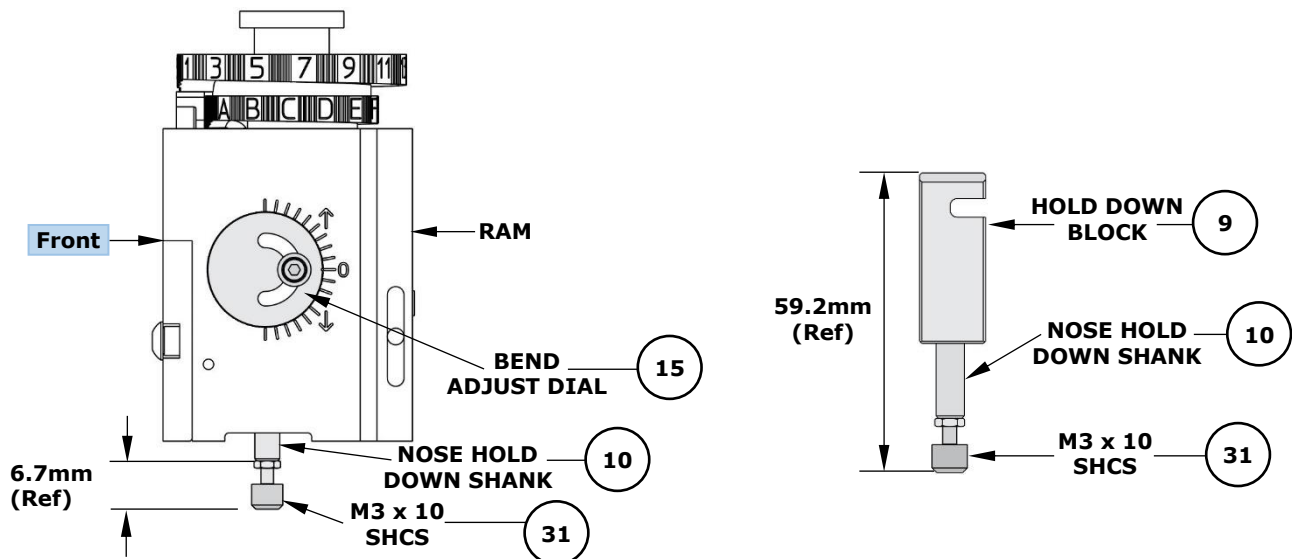- The pin is in position B.

Figure 2

Note: Each applicator is configured and tested by Molex prior to shipping, and the above settings were used to produce the included sample crimps.

Third Dial/Ram Assembly

○ Indicates item number on the Parts List and Assembly Drawing

Note: The above dimensions were measured during setup and are included as a reference only. Additional adjustments may be required before crimping for production.

CAUTION: A tooling crash may occur if any of the following conditions exist:
- The M3 x 10 SHCS extends more than 6.7mm from the nose hold down shank
- The overall length of the hold down block, shank, and M3 SHCS exceeds 59.2mm
- The bend adjust dial is adjusted too far down
- The press shut height is less than 135.80mm (5.346")

Mounting Datum Location

This applicator was assembled and tested by Molex with the mounting datum in the location shown in Figure 3. Do not remove the mounting datum.
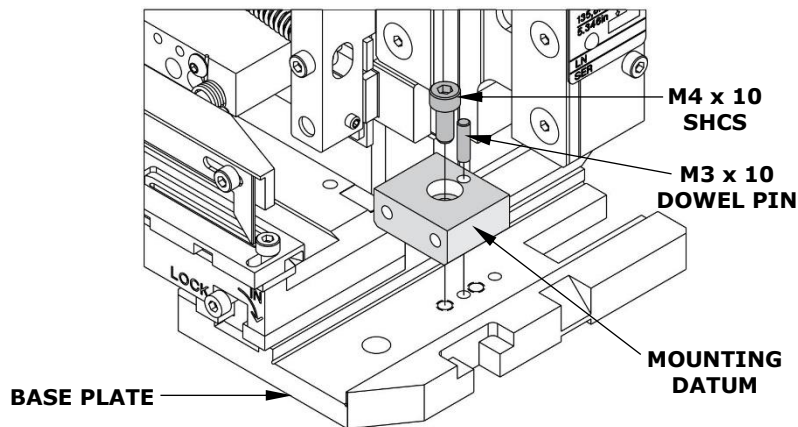

M4 x 10 SHCS

M3 x 10 DOWEL PIN

MOUNTING DATUM

BASE PLATE

Figure 3

Application Tooling Support

E-Mail: toolingsupport@molex.com
Website: www.molex.com/applicationtooling